



TEST REPORT

Testing of the sample "KOVOSIL® 45-M-355" according to UN test N.5

BAM reference	25026409
Copy	1 st copy of 2
Customer	KOVOHUTY Dolný Kubín, s.r.o Nábřežie Oravy 625/12 02601 Dolný Kubín SLOVAKIA
Order date	15.08.2025
Reference	-
Receipt of order	15.08.2025
Test samples	"KOVOSIL® 45-M-355" (23/110925/01), 300 g
Receipt of samples	11.09.2025
Test date	September 2025
Test location	Bundesanstalt für Materialforschung und -prüfung (BAM) Unter den Eichen 87 12005 Berlin
Test procedure according to	UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, 8 th revised edition, 2023.

This test report consists of page 1 to 3.

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1 Introduction

At request of the company KOVOHUTY Dolný Kubín, s.r.o, the Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany, studied the test sample "KOVOSIL®45-M-355" in accordance with the dangerous goods regulations regarding the assignment to the Division 4.3 "Substances which in contact with water emit flammable gases" and according to the GHS/CLP regulation regarding assignment to the hazard class "Substances and Mixtures which in contact with water emit flammable gases".

The transport classification is based on the UN Recommendations on the Transport of Dangerous Goods, 23rd revised edition (UN-TDG). The GHS classification is based on the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), 11th revised edition and the Regulation (EC) No 1272/2008 (CLP).

The sample arrived at BAM on 11 September 2025.

2 Sample description

The test sample "KOVOSIL®45-M-355" is by chemical nature a ferrosilicon. It is a grey powder. The customer provided the certificate of analysis (chemical and particle size analysis).

The test sample was not chemically analysed at BAM.

3 Test method

The used test method UN test N.5 is described in the UN test manual (UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, 8th revised edition, 2023).

4 Test results – UN test N.5

The ability of a substance to emit flammable gases in contact with water is tested by bringing it into contact with water.

Solid substances that contain more than 1 % (by mass) of particles with a particle size of less than 500 µm or substances, which are friable, should be ground into a powder before testing. As the test sample "KOVOSIL®45-M-355" (23/110925/01) consists of 100 % of particles, which are not exceed 500 µm, grounding was not necessary. The sample was used as delivered.

The test was performed three times with approx. 10 g of the test sample and 20 ml of water at ambient temperature (20 °C ± 1 °C) and atmospheric pressure. Gas emission was measured gravimetric.

Test sample	Trial	Sample mass [g] / Water [ml]	Max. rate of evolution of gas [l/(kg*h)]
"KOVOSIL®45-M-355" (23/110925/01)	1	10.00 / 20	0.04
	2	10.00 / 20	0.04
	3	10.01 / 20	0.04

5 Evaluation of the test results*

Criteria for Division 4.3 "Substances which in contact with water emit flammable gases" of the UN-TDG and the Hazard Class "Substances and Mixtures which in contact with water emit flammable gases" of the UN-GHS or CLP-Regulation:

Maximum rate of evolution of gas	Packing Group (Dangerous Goods)	Category (UN-GHS/CLP)
$\geq 10 \text{ l}/(\text{kg}\cdot\text{min})$	I	1
$\geq 20 \text{ l}/(\text{kg}\cdot\text{h})$ and not $\geq 10 \text{ l}/(\text{kg}\cdot\text{min})$	II	2
$> 1 \text{ l}/(\text{kg}\cdot\text{h})$ and neither $\geq 20 \text{ l}/(\text{kg}\cdot\text{h})$ nor $\geq 10 \text{ l}/(\text{kg}\cdot\text{min})$	III	3
$\leq 1 \text{ l}/(\text{kg}\cdot\text{h})$	Not Class 4.3 "Substances which in contact with water emit flammable gases"	Not Hazard Class "Substances and Mixtures which in contact with water emit flammable gases"

The test sample "KOVOSIL®45-M-355" (23/110925/01) does not fulfil the criteria of Division 4.3 "Substances which in contact with water emit flammable gases" of the UN Recommendations on the Transport of Dangerous Goods and of the Hazard Class "Substances and Mixtures which in contact with water emit flammable gases" of the Regulation (EC) No 1272/2008 (CLP-Regulation) and UN-GHS, because the maximum rate of gas emission is less than $1 \text{ l}/(\text{kg}\cdot\text{h})$.

Hazardous properties that may lead to a classification of the tested sample to another class have to be considered by the customer.

Bundesanstalt für Materialforschung und -prüfung (BAM)
12200 Berlin

2025-10-20

Division 2.3 "Classification of Hazardous Substances and Dangerous Goods"

by order


Dr. Heike Michael-Schulz
Regierungsdirektorin

by order


Dr. Annett Knorr
Oberregierungsrätin

Distribution list: 1st copy: customer
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* We herewith ensure that the evaluation has been prepared according to the best knowledge and conscience, impartially and free from any tampering. BAM reserves the right to subsequently amend, supplement and, if necessary, revoke the expert report due to important causes (e. g. substantial new findings).